Notice of Allowability	Application No.	Applicant(s)	
	10/038,353	BROWNELL ET AL.	
	Examiner	Art Unit	
	Ramsey Refai	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Supplemental Response filed 02/16/07*.

2. ☒ The allowed claim(s) is/are *1, 5, 9-11, 15, 19-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER

EXAMINER' S AMENDMENT

An examiner' s amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner' s amendment was given in a telephone interview with Peter Dichiara on March 29, 2007.

The application has been amended as follows:

In the claims:

1. (Currently Amended) A platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising:

a plurality of computer processors connected to an internal communication network;

at least one control node in communication with an external communication network and in communication with an external storage network having an external storage address space, ~~and~~ wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network;

configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a virtual local area network topology defining interconnectivity and switching functionality

among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of computer processors and the internal communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network; and

wherein the plurality of computer processors and the at least one control node include network emulation logic to emulate Ethernet functionality over the internal communication network.

2-4. (Currently Canceled)

5. (Currently Amended) The platform of ~~claim 4~~ claim 1 wherein the internal communication network is a point-to-point switch fabric.

6-8. (Currently Canceled)

9. (Currently Amended) A platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising:

a plurality of computer processors connected to an internal communication network;

at least one control node in communication with an external communication network and in communication with an external storage network having an external storage address space,

wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network;

configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of computer processors and the internal communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network;

wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, and wherein the at least one control node includes logic to extract an address from a received storage message, to identify the defined corresponding address in the external storage address space, and to provide messages on the external storage network corresponding to the received storage messages and having the corresponding address; and

~~The platform of claim 8~~ wherein the at least one control node includes logic to buffer data corresponding to write messages received from a computer processor of said corresponding set of computer processors and to provide the buffered data in the corresponding message provided to the external storage network.

10. (Currently Amended) A platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising:

a plurality of computer processors connected to an internal communication network;

at least one control node in communication with an external communication network and in communication with an external storage network having an external storage address space, wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network;

configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of computer processors and the internal

communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network;

wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, and wherein the at least one control node includes logic to extract an address from a received storage message, to identify the defined corresponding address in the external storage address space, and to provide messages on the external storage network corresponding to the received storage messages and having the corresponding address; and

~~The platform of claim 8~~ wherein the at least one control node receives storage messages from the external storage network, and wherein the at least one control node includes logic to identify a corresponding computer processor or control node that the received message is responsive to, and to provide a corresponding message to the identified computer processor or control node.

11. (Currently Amended) A method of automatically deploying at least one virtual processing area network, in response to software commands, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, ~~and~~ wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space;

receiving software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and

switching functionality among the specified processors of the virtual processing area network. and (iii) virtual storage space for the virtual processing area network;

under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network;

under programmatic control and in response to the software commands, programming said corresponding set of computer processor; and the internal communication network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set;

under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network; ~~and~~

wherein messages from the plurality of computer processors to the external communication network and to the external storage network are received and modified by the least one control node which transmits the modified messages to the external communication network and to the external storage network; and

wherein the plurality of computer processors and the at least one control node emulate Ethernet functionality over the internal communication network.

12-14. (Currently Canceled)

15. (Currently Amended) The method of ~~claim 14~~ claim 11 wherein the internal communication network is a point-to-point switch fabric and wherein the emulation of Ethernet functionality is provided over the point-to-point switch fabric.

16-18. (Currently Canceled)

19. (Currently Amended) A method of automatically deploying at least one virtual processing area network, in response to software commands, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space;

receiving software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network. and (iii) virtual storage space for the virtual processing area network;

under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network;

under programmatic control and in response to the software commands, programming said corresponding set of computer processor; and the internal communication network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set;

under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing network, said

virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network;

wherein messages from the plurality of computer processors to the external communication network and to the external storage network are received and modified by the least one control node, which transmits the modified messages to the external communication network and to the external storage network;

wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, axed wherein the at least one control node extracts am address from a received storage message, identifies the defined corresponding address in the external storage address space, and provides messages on the external storage network corresponding to the received storage messages and having the corresponding address; and

~~The method of claim 18~~ wherein the at least one control node buffers data corresponding to write messages received from a computer processor of said corresponding set of computer processors and provides the buffered data in the corresponding message provided to the external storage network.

20. (Currently Amended) A method of automatically deploying at least one virtual processing area network, in response to software commands, said method comprising the acts of:

providing a platform having a plurality of computer processors and at least one control node connected to an internal communication network, wherein the at least one control node is in communication with an external communication network and an external storage network having an external storage address space;

receiving software commands specifying (i) a number of processors for a virtual processing area network, (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network. and (iii) virtual storage space for the virtual processing area network;

under programmatic control and in response to the software commands, selecting a corresponding set of computer processors for the virtual processing area network;

under programmatic control and in response to the software commands, programming said corresponding set of computer processor; and the internal communication network to establish the specified virtual local area network topology providing communication among said corresponding set of computer processors but excluding the processors from the plurality not in said set;

under programmatic control and in response to the software commands, programming the at least one control node to define a virtual storage space of the virtual processing network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network;

wherein messages from the plurality of computer processors to the external communication network and to the external storage network are received and modified by the least one control node, which transmits the modified messages to the external communication network and to the external storage network;

wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, axed wherein the at least one control node extracts am address from a received storage message, identifies the defined corresponding address in the external storage address space, and provides messages on the external storage network corresponding to the received storage messages and having the corresponding address; and

~~The method of claim 18~~ wherein the at least one control node receives storage messages from the external storage network, and wherein the at least one control node identifies a corresponding computer processor or control node that the received message is responsive to, and provides a corresponding message to the identified computer processor or control node,

- The following is an examiner' s statement of reasons for allowance:

None of the prior art of record, not singly nor in combination teach a platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising: a plurality of computer processors connected to an internal communication network; at least one control node in communication with an external communication network and in communication with an external storage network having an external storage address space, wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network; configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of

computer processors and the internal communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network; and wherein the plurality of computer processors and the at least one control node include network emulation logic to emulate Ethernet functionality over the internal communication network as taught in claim 1.

- Claim 11 contains similar features as claim 1 is allowed for similar reasons.
- Claims 5 and 15 depend from claims 1 and 11 respectively, therefore are allowed for similar reasons as their parent claims.
- None of the prior art of record, neither singly nor in combination teach a platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising: a plurality of computer processors connected to an internal communication network; at least one control node in communication with an external communication network and in communication with an external storage network having an external storage address space, wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network; configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a

virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of computer processors and the internal communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network; wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, and wherein the at least one control node includes logic to extract an address from a received storage message, to identify the defined corresponding address in the external storage address space, and to provide messages on the external storage network corresponding to the received storage messages and having the corresponding address; and wherein the at least one control node includes logic to buffer data corresponding to write messages received from a computer processor of said corresponding set of computer processors and to provide the buffered data in the corresponding message provided to the external storage network as taught in claim 9.

- Claim 19 contains similar features as claim 9 and is allowed for similar reasons.
- None of the prior art of record, neither singly nor in combination teach a platform for automatically deploying at least one virtual processing area network, in response to software commands, said platform comprising: a plurality of computer processors connected to an internal communication network; at least one control node in communication with an external

communication network and in communication with an external storage network having an external storage address space, wherein the at least one control node is connected to the internal communication network and thereby in communication with the plurality of computer processors, said at least one control node including logic to receive messages from the plurality of computer processors, wherein said received messages are addressed to the external communication network and to the external storage network and said at least one control node including logic to modify said received messages to transmit said modified messages to the external communication network and to the external storage network; configuration logic for receiving and responding to said software commands, said software commands specifying (i) a number of processors for a virtual processing area network (ii) a virtual local area network topology defining interconnectivity and switching functionality among the specified processors of the virtual processing area network, and (iii) a virtual storage space for the virtual processing area network, said configuration logic including logic to select, under programmatic control, a corresponding set of computer processors from the plurality of computer processors, to program said corresponding set of computer processors and the internal communication network to establish the specified virtual local area network topology, and to program the at least one control node to define a virtual storage space for the virtual processing area network, said virtual storage space having a defined correspondence to a subset of the external storage address space of the external storage network; wherein the at least one control node receives, via the internal communication network, storage messages from said corresponding set of computer processors, and wherein the at least one control node includes logic to extract an address from a received storage message, to identify the defined corresponding address in the external storage address space, and to provide messages on the external storage network corresponding to

the received storage messages and having the corresponding address; and wherein the at least one control node receives storage messages from the external storage network, and wherein the at least one control node includes logic to identify a corresponding computer processor or control node that the received message is responsive to, and to provide a corresponding message to the identified computer processor or control node as taught in claim 10.

- Claim 20 contains similar features as claim 10 and is allowed for similar reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled " Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner' s supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramsey Refai
Examiner
Art Unit 2152
March 30, 2007

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